RESPONSE TO COMMENTS

Response to Alabama Department of Environmental Management Comments
Draft Site Investigation Report, Former Motor Pool Area 3100
Parcels 146(7), 212(7), 24(7), 25(7), and 73(7)
Fort McClellan, Calhoun County, Alabama (dated April 2003)

Comments from Stephen A. Cobb, Chief, Governmental Hazardous Waste Branch, Land Division, dated September 30, 2003.

Specific Comments

Comment 1: **Table 3-6. Dissolved oxygen measurements at FTA-146-MW-03 on October 5, 2001 and FTA-146-MW-04 on October 16, 2001 appear spurious, and are obviously in error.**

Response 1: Comment noted. The table was reviewed and revised accordingly.

Comment 2: **Figure 4-2. Contour 806 east of FTA-146-GP09 and south of FTA-146-GP08 should be dashed. Contour 804 from FTA-146-GP06 to the southeastern extent should be dashed. Contour 796 should be dashed.**

Response 2: Comment noted. The figure was reviewed and revised accordingly.

Comment 3: **Figure 4-3. The location of the southern end of contours 806 and 807, where dashed, should be re-evaluated to account for surface topography southeast of the Motor Pool area as well as the overall flow direction shown in Figure 4-4. Pulling the contours due east in this area does not appear to be based on reported data.**

Response 3: Comment noted. The figure was reviewed and revised accordingly.

Comment 4: **Figure 4-4. The area around FTA-146-GP05, FTA146-GP06, and FTA-146-GP07 should be contoured, or Fort McClellan should explain why contours are not appropriate for this area.**

Response 4: Comment noted. The figure was reviewed and revised accordingly.

Comment 5: **Page 4-6, lines 32 and 33. Text should be changed to reflect that the water table in clayey residual soils is typically "encountered" 5 to 10 feet below static levels during drilling and is not indicative of confinement by itself.**

Response 5: Agree. The text was revised per comment.

Comment 6: **Figure 5-1. Data box for FTA-146-GP08 should not include iron since it does not exceed background concentrations.**

Response 6: Agree. The figure was revised per comment.

Comment 7: **<u>Page 6-2.</u> No groundwater or geochemical parameters were collected to verify that adequate natural attenuation is occurring. Thus, it is premature to state that benzene is of no concern because the source has been removed. The Army's conclusion is not based on adequate data. Supporting evidence should be collected, possibly including data on terminal electron receptor concentrations.**

Response 7: Comment noted. The sentence in question was deleted. No additional groundwater or geochemical parameters will be collected.

Comment 8: **<u>Appendix B.</u> Regulatory agencies should be able to use chain of custody forms to reconstruct the custody of the samples from time of collection until time of receipt by the analytical laboratory. The sampling records provided in this appendix do not allow for the reconstruction of the COC for the following reasons:**

- **On nearly all of the sample collection logs (SCLs), the sampling team members printed their name. Signatures are required;**
- **On two SCLs, the sampling team was not identified;**
- **On four SCLs, the sampling team members were identified by initials;**
- **The name of the person who signed the first "relinquished name" on all of the chain of custody (COC) forms does not appear on the sample collection logs;**
- **On one COC form, the second "relinquished by" block does not contain a name; and,**
- **On two COC forms, the name in the last "received by" block is printed.**

Response 8: Disagree. The main thrust of the reviewer's comment regards chain of custody yet the first three bullets above address irregularities with the sample collection logs (SCL). Chain of custody is documented on the COC form as noted by the reviewer in the comment. While Shaw agrees that the SCLs should have been thoroughly completed as a matter of course, the irregularities therein do not invalidate the chain of custody because that is not their purpose.

With regard to the remaining bullets, Shaw followed the procedures outlined in Section 6.1.7.1 *Field Custody Procedures* presented in the *Draft Installation-Wide Sampling and Analysis Plan*, Revision 3, February 2002 (SAP). This sections states, "The sampling team, sample coordinator, and site manager will maintain overall responsibility for the care and custody of the samples until they are transferred or properly dispatched to the on-site screening facility and/or

Response to U.S. Environmental Protection Agency Comments
Draft Site Investigation Report, Former Motor Pool Area 3100,
Parcels 146(7), 212(7), 24(7), 25(7), and 73(7)
Fort McClellan, Calhoun County, Alabama (dated April 2003)

Comments from Doyle T. Brittain, Senior Remedial Project Manager, dated May 29, 2003.

General Comments

Comment 1: **Figures showing analytical results show up to 8 significant digits for the SSSL values. This is not really appropriate and makes the values difficult to read and compare. The number of significant figures should be consistent and defensible.**

Response 1: Agree. The figures were revised accordingly.

Comment 2: **Some rationale should be provided as to why metals were not analyzed for during the Phase II investigation since they were detected above SSSLs during the Phase I investigation.**

Response 2: Agree. Additional text was added to Section 1.1 for clarification.

Specific Comments

Comment 1: **Table 3-6. Dissolved oxygen measurements at FTA-146-MW-03 on October 5, 2001 and FTA-146-MW-04 on October 16, 2001 are spurious. This is a common problem with D.O. measurements, but these are obviously in error.**

Response 1: Comment noted. The table was reviewed and revised accordingly.

Comment 2: **Figure 4-2. Contour 806 east of FTA-146-GP09 and south of FTA-146-GP08 should be dashed. Contour 804 from FTA-146-GP06 to the southeastern extent should be dashed. Contour 796 should be dashed.**

Response 2: Comment noted. The figure was reviewed and revised accordingly.

Comment 3: **Figure 4-3. The location of the southern end of contours 806 and 807 where they are dashed should be re-evaluated to account for surface topography southeast of the Motor Pool area and the overall flow direction shown in Figure 4-4. Pulling the contours due east in this area is not based on any data.**

Response 3: Comment noted. The figure was reviewed and revised accordingly.

Comment 4: **<u>Figure 4-4.</u> The area around FTA-146-GP05, FTA146-GP06, and FTA-146-GP07 should be contoured unless there is a reason not to.**

Response 4: Comment noted. The figure was reviewed and revised accordingly.

Comment 5: **<u>Page 4-6, lines 32 and 33.</u> These lines state, "This indicates....under confined to semi confined conditions." This statement is not true. The water table in clayey residual soils is typically "encountered" 5 to 10 feet below static levels during drilling and is not indicative of confinement by itself.**

Response 5: Agree. The text was revised per comment.

Comment 6: **<u>Page 5-2, Lines 13 through 41.</u> This section of the document presents the metals that were detected at concentrations exceeding their respective ESVs and background values. It is important to note that two of the samples locations appear to be "hot spots" of contamination. First, location FTA-146DEP01 had exceedances for cadmium, copper, lead, manganese, selenium and zinc. Second, location FTA-146-GP07 had exceedances of arsenic, chromium, iron, and selenium. Both of these "hot spots" should be addressed and the potential ecological risk from these locations should be discussed.**

Response 6: Comment noted. Additional text was added to Chapter 6.0 discussing the potential ecological risk.

Comment 7: **<u>Figure 5-1.</u> Data box for FTA-146-GP08 should not show iron since it does not exceed background concentrations.**

Response 7: Agree. The figure was revised per comment.

Comment 8: **<u>Page 6-2.</u> No geochemical parameters were collected to verify that adequate natural attenuation is occurring so to state that benzene is of no concern since the source is removed is premature. While it is most likely an accurate statement, it is not based on actual data. Therefore, some corroborative evidence should be collected such as terminal electron receptor concentration data.**

Response 8: Comment noted. The sentence was deleted. No additional groundwater or geochemical parameters will be collected.

Comment 9: **<u>Page 6-2, Lines 8 through 14.</u> This paragraph discusses the potential ecological risk present at the Former Motor Pool. Additional text needs to be added discussing the two hot spots of contamination present at locations FTA-146-DEP01 and FTA-146-GP07.**

Response 9: Comment noted. Additional text was added discussing potential ecological risk.

Comment 10: **<u>Appendix B.</u> The reason for using chain of custody forms is to be able to reconstruct the custody of the samples from time of collection until time of receipt by the analytical laboratory. This is accomplished by signatures at the appropriate location on the appropriate forms. The sampling records provided in this appendix do not allow for the reconstruction of the COC for the following reasons:**

- **On nearly all of the sample collection logs (SCLs), the sampling team members printed their name, not signed as is required by the guidance. Anyone can print someone else's name.**
- **On two SCLs, the sampling team was not identified.**
- **On four SCLs, the sampling team members were identified by initials.**
- **The name of the person who signed the first relinquished name on all of the chain of custody (COC) forms does not appear on the sample collection logs.**
- **On one of the COC forms, the second relinquished by block does not contain any name.**
- **On two COC forms, the name in the last received by block is printed.**

Response 10: Disagree. The main thrust of the reviewer's comment regards chain of custody yet the first three bullets above address irregularities with the sample collection logs (SCL). Chain of custody is documented on the COC form as noted by the reviewer in the comment. While Shaw agrees that the SCLs should have been thoroughly completed as a matter of course, the irregularities therein do not invalidate the chain of custody because that is not their purpose.

With regard to the remaining bullets, Shaw followed the procedures outlined in Section 6.1.7.1 *Field Custody Procedures* presented in the *Draft Installation-Wide Sampling and Analysis Plan*, Revision 3, February 2002 (SAP). This sections states, "The sampling team, sample coordinator, and site manager will maintain overall responsibility for the care and custody of the samples until they are transferred or properly dispatched to the on-site screening facility and/or fixed-based laboratory." In addition, SAP Section 6.1.7.2 *Transfer of Custody and Shipment* states, "General custody of the sample will be maintained by the sample collection team members from the time of collection in the field through preparation and shipment to the laboratory. The main custody transfer will occur when the sample shipment is received into the laboratory from the field and is documented." Similar language is also provided in the QAP.

Using these two sections as guidance, <u>all</u> Shaw field personnel who are responsible for the collection of field samples (which includes the sample

coordinator and the site manager) were considered part of the "sample team." No custody transfer record was considered to be necessary among members of the same sample collection team. If another contractor, a subcontractor to Shaw, the Army, or other personnel had collected samples and transferred them to Shaw for processing or analysis, then the transfer of custody of those samples would have been formally recorded using a COC form.

Multiple sample technicians were responsible for collecting samples and completing the sample collection logs. The samples and logs were funneled to the Shaw sample coordinator, who then reviewed the documentation, inventoried all of the samples collected, and compiled a single COC record to list all the samples collected (daily) for transfer to the receiving analytical laboratories. Therefore, the sample coordinator's signature on the form represents the transfer of custody from the Shaw sample team in the field to the analytical laboratory personnel (per Section 6.1.7.2 of the SAP). Shaw believes that this is satisfactory custody transfer documentation and, therefore, does not agree this indicates that sample custody was not maintained as stated in the comment. Shaw personnel followed the same chain-of-custody procedures that have been in effect since the beginning of the FTMC project in 1998. It is perplexing that until now these issues have never been called into question.

However, in light of recent comments received by EPA, Shaw has changed its COC procedures to include a separate COC for each sample collection team. Each sample collection team will submit samples, COCs, and SCLs to the sample coordinator. The SCLs and COCs will be reviewed by the sample coordinator prior to taking possession of the samples and signing the COC. This process will be repeated for each sample collection team in the field. The COCs will then be copied for the field records and maintained onsite. The original forms will be transmitted to the office for filing in the project central files. In future reports, this appendix will include all "supplementary" sample team COCs to document intra-team custody transfers and all SCLs.